IN THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application.

1. Canceled.

2. Canceled.

3. Canceled.

4. Canceled.

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24. Canceled.

25. (Original) A system for use in an annuloplasty procedure, the system comprising:

a catheter assembly configured for insertion through an aorta of the heart into a left ventricle of the heart to reach a region of the left ventricle substantially below the mitral valve; and

a suture structure comprising a first bar member, a second bar member, a thread, and a locking element, the first bar member and the second bar member being coupled to the thread, the locking element being arranged to move over the thread, the catheter assembly being configured to cause the first bar member and the second bar member to penetrate tissue near the mitral valve, the catheter assembly further being configured to move the locking element over the thread into contact with the tissue on a ventricular side of the mitral valve, wherein a plication is created in the tissue substantially between the first bar member, the second bar member, and the locking element.

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37. (New) A system for use in an annuloplasty procedure, the system comprising:

a catheter assembly configured for introduction through the vascular system and into the heart of a patient to a location near the mitral valve; and

a plication assembly including a first plicating element, a second plicating element, a first thread portion, a second thread portion, and a locking element, the first plicating element and the second plicating element being respectively coupled to the first and second thread portions, the locking element being arranged to move over the first and second thread portions, the catheter assembly being configured to cause the first plicating element and the second plicating element to penetrate tissue near the mitral valve, the catheter assembly further being configured to move the locking element over the first and second thread portions toward the first and second plicating elements to create a plication in the tissue substantially between the first plicating element, the second plicating element, and the locking element.

38. (New) The system of claim 37, wherein said locking element further comprises a one-way locking element.

39. (New) The system of claim 37, further comprising:

a first pledget coupled for movement along the first thread portion and configured to be positioned on an opposite side of the tissue from the first plicating element, and

a second pledget coupled for movement along the second thread portion and configured to be positioned on an opposite side of the tissue from the second plicating element,

whereby the tissue is held between the first plicating element and the first pledget and between the second plicating element and the second pledget.

40. (New) The system of claim 39, wherein the first and second pledgets are formed from a material that supports the growth of scar tissue therethrough.

41. (New) The system of claim 37, wherein the first and second thread portions are connected together on a side of the locking element opposite to the first and second plicating elements.

42. (New) The system of claim 37, wherein the first and second thread portions each have free ends on a side of the locking element opposite to the first and second plicating elements.

43. A system for use in an annuloplasty procedure, the system comprising:

a catheter assembly configured for introduction through the vascular system and into the heart of a patient to a location near the mitral valve; and

a plication assembly comprising a first plicating element, a second plicating element, a first thread portion coupled to the first plicating element, a second thread portion coupled to the second plicating element, and a locking element coupled for movement along the first and second thread portions at a location generally between the first and second plicating elements, the catheter assembly being configured to cause the first and second plicating elements to penetrate tissue near the mitral valve, the catheter assembly further being configured to move the locking element over the first and second thread portions toward the first and second plicating elements to create a plication in the tissue substantially between the first plicating element, the second plicating element, and the locking element.

44. (New) The system of claim 43, wherein said locking element further comprises a one-way locking element.

45. (New) The system of claim 43, further comprising:

a first pledget coupled for movement along the first thread portion and configured to be positioned on an opposite side of the tissue from the first plicating element, and

a second pledget coupled for movement along the second thread portion and configured to be positioned on an opposite side of the tissue from the second plicating element,

whereby the tissue is held between the first plicating element and the first pledget and between the second plicating element and the second pledget.

46. (New) The system of claim 45, wherein the first and second pledgets are formed from a material that supports the growth of scar tissue therethrough.

47. (New) The system of claim 43, wherein the first and second thread portions are connected together on a side of the locking element opposite to the first and second plicating elements.

48. (New) The system of claim 43, wherein the first and second thread portions each have free ends on a side of the locking element opposite to the first and second plicating elements.

49. (New) A system for use in an annuloplasty procedure, the system comprising:

a catheter assembly configured for introduction through the vascular system and into the heart of a patient to a location near the mitral valve; and

a plication assembly including a first plicating element, a second plicating element, a first thread portion, a second thread portion, and a locking element, the first plicating element and the second plicating element being respectively coupled to the first and second thread portions, the locking element being arranged to move over the first and second thread portions, the catheter assembly being configured to move the locking element over the first and second thread portions toward the first and second plicating elements after the first and second plicating elements have been penetrated into tissue near the mitral valve with movement of the locking element thereby creating a plication in the tissue substantially between the first plicating element, the second plicating element, and the locking element.